Assessing The Relevance of Geography in Addressing Technological Skills: Case of Lesotho

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Abstract—*Educational curriculum often addresses the challenges and needs of the society in which the school resides. In addition, the curriculum provides a room for schools to teach skills necessary to combat the imbalances within societies. This paper aimed at investigating whether Lesotho's Geography syllabus addresses technological challenges. The research employed document analysis, analysing the Grade 10 Geography syllabus, and interpreting other authors' findings so as to present how Geography is relevant in addressing technological skills. Adopting qualitative approach, the findings of the research are presented and discussed in a narrative form. The researcher argues that Geography syllabus addresses the technological challenges, as well as preparing learners for technological courses in universities. However, this research found that technological skills are not explicitly integrated in Geography education. Thus, it is recommended that Geography should be taught with more emphasis on equipping learners with explicit skills on GIS, GPS, remote sensing, as such skills are essential in the current world of work.*

Key words—*technological skills, Geography syllabus, societal issues, GIS, GPS, remote sensing*

Introduction

For any subject to stay relevant in education, it should address societal challenges, as well as national development goals. In addition, the subject should be in alignment with the curriculum assessment policy which determines what type of content should be taught to learners for education to meet its purposes (Raselimo & Thamae, 2018). We argue that Geography, as part of the current curriculum, must address challenges of the society in which the school resides, as well as reflect on the national development goals. Challenges that should be addressed by education are economic, social, political, environmental, and technological challenges.

The purpose of this essay is to reflect on the relevance of Geography to address technological issues. In doing this therefore, the paper discusses the characteristics/themes in the Geography syllabus that promote the development of technological skills. Technological skills in this case refer to the to the ability to communicate and complete tasks using computer-based tools and other technologies (Kolmar, 2021). The structure of this paper is as follows: first, the relevance of Lesotho's Geography education to address technological skills is critical discussed, then the implications, conclusion and recommendations are made at a later stage, and finally the paper closes with the list of references used in this study.

Relevance of Geography in addressing technological skills

In this section, the relevance of Lesotho's Geography education to address technological skills is critically discussed. The discussion is based on what other authors such Raselimo & Thamae (2018) have found, as well as what is there in the current syllabus that promote technological skills. Interpreting these sources, conclusions are made on whether Lesotho's Geography addresses technological skills.

As Raselimo and Thamae (2018) states, one of the primary aims of secondary education in Lesotho is to ensure that scientific and technological skills are promoted so as to respond to socio-economic challenges. This appears to affect Geography as a subject in secondary education. To ensure support of the mentioned aim of secondary education, the current Grade 10 Geography Syllabus has four sections, with the last section dealing with basic techniques and inquiry skills.

One of the objectives under 'Basic techniques and Inquiry skills' is to enable learners to demonstrate the ability to use and access information from the computer and other secondary sources (Ministry of Education and Training, 2019). The message in the mentioned objective is that learners are expected to leave the school with knowledge on how to manipulate computer programmes (ICT literacy) to access required information. This suggests that section D of the Grade 10 Geography syllabus features the development of technological skills which would be used in other aspects of the society and life in general.

In support of the assertion that section D of the Grade 10 Geography syllabus features mostly technological development, Raselimo & Thamae (2018) argues that the theme which deals with map work as part of the basic techniques and inquiry skills, develops skills that could be used in modern technologies such as Geographic Information Systems, Global Positioning System (GPS), as well as remote sensing.

However, the activities provided by the syllabus do not directly feature the use of such modern technologies but creates foundation for the development of skills that could be useful when using GIS and GPS. As a result, Raselimo and Thamae (2018) were right to argue that the use of technological tools does not explicitly feature Lesotho's Geography curriculum; the only skills developed through map reading and interpretation are just a foundation for the use of modern technologies.

Importantly, Artvinli (2010) asserts that in the Geography topic whereby lessons are based on inquiry skills, it is possible and appropriate to incorporate the use of GIS if the schools have such a resource. Artvinli (2010) further argues that the use of GIS to improve geographic

inquiry skills should be made central to respond to the 21st century life- which is characterised by the excessive use of technological tools to interact and complete tasks. Evidently, the integration of map reading and interpretation in Lesotho's Geography syllabus is to equip learners with necessary skills that could be applied when using modern technologies such as GPS.

While Raselimo & Thamae (2018) believe that learners develop locational and visual observation skills through map work activities, Dempsey (2019) believes that such visual observation skills and locational skills will help Geography learners to become proficient with Global Positioning System (GPS). Against this background, we are convinced that Geography syllabus attempts to ensure support of locational and visual observation skills, which would enable learners to manipulate digital information in a GPS application.

Similarly, map reading and interpretation equips learners with the ability to report their findings by creating their maps. As Dempsey (2019) argues, map reading and interpretation provides for the development of cartographic and data visualization skills. In addition, cartographic techniques enable the learners to become experts in colour shading, use of symbols, and labelling of maps and graphics that could be understood by people across the globe (Dempsey, 2019). Therefore, map reading and interpretation equips learners with graphic-designing skills which are technology based skills.

Apart from equipping learners with basic techniques and inquiry skills by integrating map work, Grade 10 Geography syllabus provides a room for fieldwork in almost every topic (MOET, 2019). Becta (2004) argues that during fieldworks, learners become proficient with technological tools as they capture photos and videos of important geographical features or processes, which they can use for future reference. In support of Becta's (2004) argument that fieldwork promotes technological skills through photography of Geography features, Bitso (2013) also finds cell phone technology an important factor in Geography education in Lesotho.

According to Bitso (2013), use of technological tools such as smartphones to record findings while in the field is occasionally possible as cell phones have increasingly penetrated the country. Arguably, Geographic fieldwork can promote development of technological skills if mobile phones and cameras become some of the important resources or tools to record geographic phenomena being investigated in the field. Thus, the use of such digital tools exposes and helps learners to develop technological skills.

Another development that is brought by the Geography syllabus is the use of internet as one of the important resources other than a textbook. In the syllabus, internet is one of the suggested resources to teach concepts such as migration patterns, population, tourism, and power production (MOET, 2019). Internet itself is a technological platform as it requires ICT based skills to access information. Bitso (2012) is aware that Lesotho Geography teachers are affected negatively by lack of resources. As a result, Bitso (2012) suggests that internet should be used in Geography education as it allows learners to access information which is physically impossible to get with the traditional resources.

Implications of the study

The results from the document analysis were gathered and presented in the body of this paper in a narrative form. Thus, the findings of this study are important for researchers who would wish to probe in to the relevance of Geography curriculum in secondary education. From the discussion above, it is evident that Geography's relevance is not only on the content taught but also on the skills that come with the learning activities. Nevertheless, Geography education has survived this far because of its relevance in addressing societal and national development goals.

Even though Grade 10 Geography syllabus minimally develops learners' technological skills, it however provides a stable foundation that will allow learners to undertake technological courses in the institutions of higher learning. For example, a learner who has studied Geography in secondary can easily enrol in Urban and Regional Planning, and GIS courses at the National University of Lesotho or outside the country.

The findings presented in the body of this study therefore, challenge the curriculum designers and implementers to consider the explicit use of modern technologies in the Geography education as it is evident that secondary Geography education can provide a suitable environment for the development of remote sensing and GPS. Furthermore, the ICT skills should be one of the priorities in the Geography education as it prepares learners for the 21st Century life.

Stated in Raselimo and Thamae (2018), Geography had been one of the elective courses in secondary education. This, we believe, was a result of under-estimating the relevance of Geography to address and meet the aims of education. We strongly suggest that the current curriculum (integrated curriculum) should provide a bigger space for Geography to prove itself an important subject that can equip learners with skills that are essential to transform Lesotho from being a poor country to a more developed country in the world.

Conclusion and recommendations

In this paper, the relevance of Geography to address the technological skills was discussed based on the analysis of the Grade 10 Geography syllabus and on the findings of other authorities such as Raselimo and Thamae (2018). The results of the analysis of the documents had shown that much of the Geography content is based on the technical paradigm or the scholar academic ideology-which emphasises that learners should be taught based on how well they can memorise and understand concepts.

However, the findings suggest that Geography is still relevant when it comes to the development of technological skills. In addition, the findings had shown that there is a room for teachers to incorporate the use of Geospatial technologies such as GIS, GPS, and remote sensing to teach basic techniques and inquiry skills. Against this background, it appears possible to conclude that Geography education is relevant towards societal needs and the national goals.

In order for Geography to stay relevant in secondary education, much of its contributions should be shared by the principals and curriculum decision-makers because the value and future of this subject is in their hands. Geography teachers should also reflect on their practice to evaluate whether they are serving the purposes of education. It is also important to introduce usage of modern technologies in Geography at the secondary level so that when the learners graduate high school, they leave with technological competences.

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